

REMARKS

Claims 11, 12 and 15 to 20 are now pending in the present application.

In view of the following, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Claims 11, 12 and 15 to 20 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite. In this regard, claims 11, 12 and 19 have been corrected as suggested. Accordingly, withdrawal of the indefiniteness rejections of the claims is respectfully requested.

Claims 11, 12 and 15 to 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over European Patent Application No. 11601119 ("Tabata") and U.S. Patent No. 6,457,784 ("Bohm").

Claim 11 relates to a method for controlling a hybrid drive of a vehicle, the hybrid drive including as propulsion motors an internal combustion engine and at least one electric motor/generator, and output shafts of the propulsion motors being operatively linkable to a power train of the vehicle, the method including activating the propulsion motors and an electrically activatable braking system of the vehicle in a coordinated manner, as a function of a negative torque demand, and taking the negative torque demand into account. Claim 11 provides that *to specify a setpoint wheel braking torque, an instantaneous transmission output torque signal is gated with a request signal of a brake pedal*. Claim 11 further provides that *a request signal delivered by a brake pedal is interpreted within a range that is defined by operation-related state data of the braking system and instantaneous torque or power potentials of the hybrid drive*.

It is respectfully submitted that "Tabata" and "Bohm", whether taken alone or combined, do not disclose or suggest the feature in which to specify the setpoint wheel braking torque, an instantaneous transmission output torque signal is gated with a request signal of the brake pedal, and in which the request signal is interpreted within a range that is defined by operation-related state data of the braking system and instantaneous torque or power potentials of the hybrid drive, as provided for in the context of claim 11, as presented.

In particular, the last section of independent claim 11 provides that the "request signal delivered by a brake pedal is interpreted within a range that is defined by the operation-related state data of the braking system and instantaneous torque or power potentials of the hybrid drive", which is not in any way disclosed by the applied references. *The request signal delivered by the brake pedal is a "raw-signal" which is interpreted or*

processed so that a coordinated activation of the propulsion motors and the electrically activatable braking system of the vehicle occurs.

The definition of the range in which the signal can be interpreted and which is dependent on the operation-related state data of the braking system and the instantaneous torque or power potentials of the hybrid drive (the latter being, for example, the instantaneous possible minimal and/or maximal torque of the hybrid drive) is a processing of the negative torque demand signal delivered by the brake pedal in correspondence to the operation-related state data of the braking system and the instantaneous possible minimal and/or maximal torque of the hybrid drive, whereby different values are assigned to the "raw-signal" delivered by the brake pedal – and in which the values reach from a possible minimum-value to a possible maximum-value, in correspondence to the instantaneous possible torques of the hybrid drive. Therefore, a range is set in which the signal delivered by the brake pedal is interpreted or processed.

Interpreting (or processing) the signal delivered by the brake pedal as to the instantaneous minimal and/or maximal torque of the hybrid drive -- as in the context of the claimed subject matter, can prevent, for example, the demand for a negative torque which cannot be realized by the hybrid drive.

The following example illustrates this as follows:

Every brake pedal can be adjusted between a minimal and a maximal position. The raw-signal depending on the position of the brake pedal lies within a signal-range from a minimal to a maximal negative torque demand. The actual possible minimal/maximal torque of the hybrid drive and the brake system can vary, so that, for example: The maximal (negative) possible torque of the hybrid drive reaches -- instead of 100% -- only 80% due to an overheated battery of the electric motor generator.

Using the subject matter of claim 11, *the signal delivered by the brake pedal can now be processed so that the maximal possible negative torque of the hybrid drive is assigned to the maximal negative torque demand position of the brake pedal. In the same way, a value is assigned to the minimal negative torque demand position of the brake pedal. The values lying in between will be assigned to corresponding positions of the brake pedal.*

Therefore, a range is defined for the signal delivered by the brake pedal in which the signal can be interpreted/processed.

Neither Tabata nor Boehm, whether taken alone or combined, disclose the claim feature discussed above. The paragraph section [109] cited in the Final Office Action

only states that the braking force applied to the vehicle is the sum of the power source braking and the wheel braking. Defining a range in which the signal delivered by the brake pedal can be interpreted/processed is not disclosed nor suggested in this section nor in any other section of the Tabata reference. Furthermore, the Boehm reference does not disclose nor suggest the feature of defining a range in which the signal delivered by the brake pedal can be interpreted/processed with respect to the instantaneous torque or power output potentials of the hybrid drive and the operation-related state data of the braking system.

Accordingly, for at least these reasons, claim 11 is allowable.

Still further, and as previously explained, “Tabata”, for example, refers in col. 28, paragraph [109] to a hybrid drive of a vehicle, which may adopt two different types of braking, namely, a wheel braking applied in response to actuation of the brake pedal, and also a power source braking by means of the loading torques from the engine and the motor, the power source being made effective when the accelerator pedal is released. “Tabata” does not disclose or suggest that “*to specify* a setpoint wheel braking torque, an instantaneous transmission output torque signal is gated with a request signal of a brake pedal.” “Tabata” states only that the braking force applied to the vehicle is the sum of the power source braking and the wheel braking when the driver steps on the brake pedal. para. [109]. However, “Tabata” does not discuss how the components of that breaking force are determined.

Specifically, “Tabata” does not disclose or suggest that in order *to specify* a setpoint wheel braking torque, an instantaneous transmission output torque signal is gated with a request signal of a brake pedal, as provided for in the context of claim 11. “Tabata” does not disclose or suggest any dependency between wheel breaking torque and instantaneous transmission output torque at all. In fact, an instantaneous transmission output torque signal is not taken into account. Moreover, “Tabata” does not disclose or suggest that the request signal by the brake pedal is interpreted within a range that is defined by operation-related state data of the braking system and instantaneous torque or power potentials of the hybrid drive, as provided for in the context of claim 11, as presented.

Likewise, “Bohm” refers in col. 5, lines 36 to 44, to a vehicle with an electric drive and a friction brake, in which different set values for braking torque are generated for an electric motor and friction brakes of a front axle and a rear axle of the vehicle. A method for controlling a hybrid drive is neither discussed nor suggested. Moreover, “Bohm” does not

disclose or suggest the feature of taking into account a transmission output torque signal for specifying the setpoint wheel braking torque and interpreting the request signal within a range that is defined by operation-related state data of the braking system and instantaneous torque or power potentials of the hybrid drive.

The Final Office Action asserts on page 5 that “Tabata” refers on page 15, col. 28, lines 26 to 40, to a summing of the power source braking and the wheel braking when the driver steps on the brake pedal, and that such a reference meets the limitations of claim 11 because the recited terms “setpoint” and “signal” have no specific definition.

However, even if “Tabata” describes a total breaking force as the sum of power source braking and wheel braking, “Tabata” does not disclose or suggest *specifying* the setpoint wheel braking torque. In the context of claim 11, the setpoint wheel braking torque is dependent on both an instantaneous transmission output torque signal and on a request signal of a brake pedal. Specifically, claim 11 provides that “*to specify* a setpoint wheel braking torque, an instantaneous transmission output torque signal is gated with a request signal of a brake pedal.” In contrast, as explained above, “Tabata” does not disclose or suggest that an instantaneous transmission output torque signal and a request signal of a brake pedal are used to specify a setpoint wheel braking torque. “Tabata” does not disclose or suggest that a setpoint wheel braking torque is dependent on an instantaneous transmission output torque signal or a request signal of a brake pedal at all.

Accordingly, for at least these reasons, claim 11 is allowable, as are its dependent claims 12 and 15 to 20.

In view of all of the foregoing, withdrawal of the obviousness rejections is respectfully requested.

New claims 21 to 24 do not add any new matter and are supported by the present application, including the specification. Claims 21 to 24 depend from claim 11, and are therefore allowable for the same reasons that claim 11 is allowable. In particular, claims 21 and 22 expand upon the features of the claim 11, and are allowable for these further reasons.

In sum, claims 11, 12, and 15 to 24 are allowable.

Application Serial No. 10/501,263
Atty. Docket No. 10191/3821
Reply to Final Office Action of January 17, 2007

Conclusion

In view of the foregoing, it is respectfully submitted that all of presently pending claims 11, 12 and 15 to 24 are allowable. It is therefore respectfully requested that the rejections (and any objections) be withdrawn. All issues raised by the Examiner have been addressed, so that an early and favorable action on the merits is respectfully requested.

Dated: 9/14/2007

Respectfully submitted,

By: 

Gerard A. Messina
(Reg. No. 35,952)

KENYON & KENYON LLP
One Broadway
New York, New York 10004
(212) 425-7200

Handwritten notes:
33,865
Hanson
PEDITCH

CUSTOMER NO. 26646